

CLAIMS

What is claimed is:

- 5 1. A radiation device with a L-shaped ground
plane comprising:
a radiation patch;
a feeding-in device for exciting the radiation
metal piece; and
10 a ground plane element having a first ground
plane and a second ground plane, the first
ground plane being parallel to the radiation
patch, and the second ground plane being
installed on the first ground plane so as to form
15 an included angle between the first and second
ground planes;
wherein the feeding-in device will connect the
radiation patch to the first ground plane of the
ground plane element.
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2. The radiation device of claim 1, wherein the
included angle between the first ground plane
and the second ground plane is less than or
equal to 90 degrees.
- 25 3. The radiation device of claim 1, wherein the

included angle between the first ground plane and the second ground plane is greater than or equal to 90 degrees.

5 4. The radiation device of claim 2, wherein the ground plane element is a L-shaped ground plane.

10 5. The radiation device of claim 1, wherein on the left side of the first ground plane, the second ground plane is extended upward from the surface of the first ground plane where the radiation patch is installed so as to form the ground plane element.

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6. The radiation device of claim 1, wherein on the right side of the first ground plane, the second ground plane is extended upward from the surface of the first ground plane where the radiation metal piece is installed so as to form the ground plane element.

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7. The radiation device of claim 1, wherein the L-shaped ground plane further comprises

another second ground plane, and the two
second planes are extended upward from the
surface of the first ground plane where the
radiation patch is installed, respectively on the
5 left and right sides of the first ground plane, so
as to form the ground plane element.

8. The radiation device of claim 1, wherein the
height of the second ground plane is not greater
10 than twice distance between the radiation patch
and the first ground plane.

9. The radiation device of claim 1, wherein the
radiation patch is rectangular.

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10. The radiation device of claim 1, wherein the
radiation patch is circular.

11. The radiation device of claim 1 further
20 comprising a shorted structure installed
between the radiation patch and the first
ground plane.